

REMARKS

Applicant requests favorable consideration and allowance of the subject application in view of the following remarks.

Claims 1-13 are presented for consideration. Claims 1, 9, 12 and 13 are independent.

The claims have not been amended herein.

In the Office Action dated August 23, 2007, claims 1-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,227,948 to Boon et al. in view of U.S. Patent Application Pub. No. 2002/0121615 to Nakasucci, Korean Patent Pub. No. 2001-065114 to Ha et al. and U.S. Patent Application Pub. No. 2005/0229690 to Kikuchi et al.

Applicant respectfully traverses the rejection, and submits the cited references, whether taken individually or in combination, do not teach or suggest many features recited in the claims. Accordingly, Applicant submits the claims are allowable over the combination of references, for at least the following reasons.

With respect to independent claims 1, 9, 12, and 13, the Office Action cites Boon et al. as disclosing a magnetic guiding apparatus comprising certain features of these claims. The Office Action acknowledges, however, that Boon et al. does not disclose (1) a plurality of magnetic flux detection means on a guided moving member for detecting a magnetic flux along the length of a target during movement of the moving member along the length of a sliding member, (2) a detection means for detecting a position of a magnetic flux peak along the length of a target, (3) demagnetization means, and (4) a position measuring means that measures a position along the length of a sliding member.

In addition to these deficiencies of Boon et al., Applicant notes that the reference is devoid of any mention problems associated with magnetic flux within the disclosed apparatus.

In order to cure some of the deficiencies in Boon et al., the Office Action looks to Nakasuij. Specifically, the Office Action finds, *inter alia*, Nakasuij discloses a plurality of magnetic field detection means in the form of search coil 21 for detecting stray floating magnetic fields, and a plurality of demagnetization means in the form of compensation coil 22. The Office Action concludes, therefore, that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have used magnetic flux detection means and demagnetization means in the electromagnets of Boon et al. in order to perform demagnetization at the location of a magnetic flux within the apparatus of Boon et al. so as to prevent adverse effects of magnetic fluxes on the system.

Applicant respectfully submits, however, that Nakasuij actually teaches a completely different concept from that which is asserted in the Office Action for incorporation into Boon et al. Nakasuij discloses a method and devices for detecting and cancelling floating magnetic fields external to Nakasuij's disclosed microlithography system. See, e.g., Nakasuij, paragraph [0008]. Nakasuij discloses nothing about detecting a magnetic field or magnetic flux from part of the disclosed system's structure, and, hence, nothing even remotely analogous to detecting a magnetic flux peak along the length of a target. Moreover, Nakasuij provides the search coil 21 and compensation coil 22 at specific position within the system, that is, adjacent to a facing surface of the second projection lens 13. Nakasuij, Fig. 1 and paragraph [0032]. Thus, Nakasuij does not in any way suggest, and, in fact, teaches away from the idea of detecting magnetic fields or magnetic flux over a plurality of positions, such as along the length of a target.

In order to further cure the deficiencies of Boon et al., the Office Action looks to Ha et al. Specifically, the Office Action alleges Ha et al. discloses a magnetic guiding apparatus for guiding a moving member along the length of a sliding member in order to perform

demagnetization of a semiconductor package. The Office Action further alleges that Ha et al. discloses the driving cylinder being controlled to accurately situate the moving member for performing demagnetization on a portion of the semiconductor package needing demagnetization, thereby necessitating a position measuring means for measuring a position on the guided moving member. The Office Action concludes, therefore, that it would have been obvious to one of ordinary skill in the art to include a position measuring means in Boon et al. based on the teachings of Ha et al.

Applicants respectfully submit, however, that the disclosure of Ha et al. does not necessitate a position measuring means, as alleged in the Office Action. In Applicant's view, Ha et al. does not explicitly disclose a position measuring means, and, thus, the Office Action must be relying on such a feature being inherently found in the reference. In relying upon a theory of inherency, there must be a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied reference. Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). The fact that a certain result or characteristic may occur or be present in a reference is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); see also MPEP § 2112. In this case, nothing in Ha et al. appears to necessitate a position measuring means. It would be sufficient, for example, to have a predetermined input value for causing the driving cylinders to effectuate the rise, fall, forward, and backward movements of the electromagnetic chuck 1 of Ha et al. As such, position measuring means would not be necessary to measure a position of Ha et al.'s electromagnetic chuck 1. In other words, position measuring means would not necessarily flow from the teachings of Ha et al.

In order to further cure the deficiencies of Boon et al., the Office Action looks to Kikuchi et al. for disclosing that a large magnetic field occurs in conjunction with a magnetic flux peak, and, thus, it would have been obvious to one of ordinary skill in the art to detect magnetic flux peaks in the apparatus of Boon et al. in order to detect strong magnetic fields.

Applicants respectfully note, however, that Kikuchi et al. is directed to a tire temperature sensor, tire heat deterioration detection sensor, and tire. As such, the reference is clearly in a different field of endeavor than the other cited references, or Applicant's invention.

In view of all of foregoing reasons, Applicant respectfully submits that the rejection as set forth in the Office Action would only be seen as obvious to one of ordinary skill in the art with a view of Applicant's invention as a template for hindsight reconstruction of Applicant's claims. To this end, it has been emphasized that "[a] factfinder should be aware . . . of the distortion caused by hindsight bias and must be cautious of argument reliant upon ex post reasoning." KSR Int'l Co. v. Teleflex, Inc., 127 S.Ct. 1727, 1743, 82 USPQ2d 1385, 1396 (2007). In this case, as described above, one of ordinary skill in the art in order to derive Applicant's invention recited in the claims would have to at least:

- (1) look to the electromagnetic support structure of Boon et al. and recognize a problem of magnetic flux, despite Boon et al.'s lack of any disclosure of such a problem;
- (2) look to a CPM microlithography system of Nakasuji, which is in a different field of endeavor to Boon et al.;
- (3) somehow decide that Nakasuji's discussion of external magnetic fields should be applied to Boon et al., again noting Boon et al. says nothing of any magnetic filed of magnetic flux problem;

(4) decide that the search and compensation coils of Nakasuji should be incorporated into Boon et al., so as to detect magnetic flux along the length of Boon et al.'s target, despite Nakasuji's disclosure of providing the search and compensation coils for the purpose of dealing with floating external magnetic fields, and despite Boon et al. lack of any discussion of problems associated with magnetic fields or magnetic flux;

(5) decide to apply Nakasuji's search and compensation coils on a guided moving member of Boon et al., despite Nakasuji's teaching of providing the search and compensation coils for dealing with magnetic fields at specific locations;

(6) further look to Ha et al., and conclude that the reference discloses a position measuring means, even though nothing in the reference appears to suggest the necessity of the position measuring means, and then incorporate the undisclosed position measuring means into the apparatus of Boon et al.; and

(7) look to the nonanalogous art of Kikuchi et al. for analogizing between magnetic fields and magnetic flux peaks.

Applicant respectfully submits that the missing links between the cited references, the still missing claimed features not disclosed by the cited references, and the sheer number of steps required in combining the multiple references, indicates that the rejection is based on impermissible hindsight of Applicant's invention. Accordingly, Applicant submits that the rejection of independent claims 1, 9, 12, and 13 should be withdrawn.

Applicant further submits that dependent claims 2-8, 10 and 11 also should be deemed allowable in their own right for defining other patentable features of the present invention in addition to those recited in their respective independent claims. Further individual consideration of these dependent claims is requested.

Applicant submits that the present application is in condition allowance. Applicant requests favorable reconsideration, withdrawal of the rejection set forth in the above-noted Office Action, and an early notice of allowance.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below

Respectfully submitted,

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